annoyance of the emitted effluvium and foul vapour from not knowing wherein lies the evil and remedy. They complain of smell arising from the sewer, when it is very often found to arise from the choking and inefficient action of these traps, and the bad construction of common brick traps with dip stones. The stench-trap represented in Fig. 5 it is hoped will prevent these evils; it can be made of various sizes, from 4 to 9 inches diameter; and would be considerably cheaper and much more efficient than those formed of common bricks, the latter being generally constructed very imperfectly. It is to be hoped that some enterprising brick and tile makers will very soon set about preparing the various articles of tubes, stench-traps, and soil-pans herein recommended for the London market. Their efficiency would soon be appreciated, and they would quickly supersede the use of brick drains. I shall feel pleasure, at any time, in affording information as to the formation and construction of these articles to any one, on addressing a note for me to THE BUILDER Office.

For the humbler classes of dwellings it is essential in the construction of cesspools to *all common privies*, that they be built as small as convenient, in a sound and substantial manner, and perfectly air and water-tight, so as to prevent the noxious stench from escaping into the closet; and also to hinder the contents of the cesspools from permeating the surrounding earth. The bottoms and sides of cesspools should be combined together with an inverted arch, and built with sound, well-burnt, hard stocks. The bricks should be saturated with water and laid in Roman cement. The cross joints should be well flushed up, and the cesspools should have their interior surfaces properly rendered with Roman cement at least three-quarters of an inch thick. A cesspool thus formed would be as one solid mass, and perfectly water-tight.

It is impossible to make cesspools water-tight by building them with common mortar, for mortar becomes friable and rotten when in contact and impregnated with the acids contained in the urine. The carbonate of lime contained in the mortar combining as a base with the acids it may meet with from the urine, a lactate of lime is formed, which, being soluble, is carried away. Therefore, while the lime is being gradually removed, the silica remains unacted upon by the acids in general, and thus we may easily account for the rotten and friable state of the mortar.

An overflow tubular drain should be placed 1 foot 6 inches or 2 feet from the bottom of the cesspool, communicating in a direct inclination with the main sewer. The top of the cesspool may be covered over either with a brick arch, or with a sound Yorkshire paving-stone, at least 3 inches thick, tailing 4½ inches on the walls, and properly bedded upon them. A cheap, strong, earthenware soil-pan with a funnel could be made in one piece, glazed inside, which, being properly fixed and bedded air-tight into a hole cut in the arch or stone, the exact size of the funnel, and continued down and dipped 4 or 5 inches in the water below the overflow drain, would prevent the stench from escaping into the closet. The surface of the water in the immersed funnel would be the only portion of the cesspool exposed, which would be very trifling. All the rain-water from the roofs should be conveyed into the soil-pan by the usual pipe, affording another means for reducing the impurities of the cesspool, and when the soil-pan is closed by a cover, all foul air evaporated from the surface of the water within the funnel would ascend up this pipe. The surface drainage of the yard or area should also be conveyed into the cesspool through a small drain properly trapped, and all the refuse water (*and only the water, not vegetable refuse and ashes*) that accumulates or can be collected upon the premises should be thrown into the soil-pan as a sink. Equal contents of the cesspool will be displaced and driven into the overflow-drain by an equal amount of refuse water thrown down the soil-pan, which will be carried off into the main sewer much more swiftly by having the calibre of the overflow drain small and in proportion to the extent of the premises. By these means the water, &c., within the cesspool will continually be undergoing a purifying change.

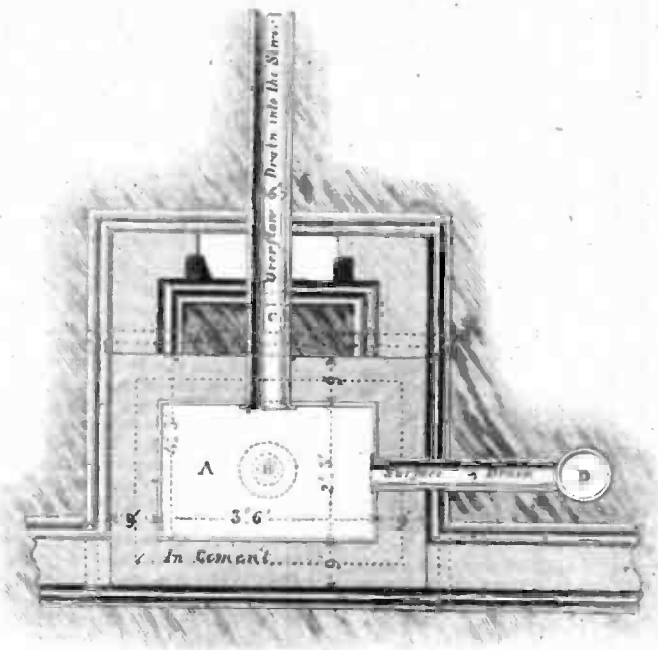

Fig. 6.

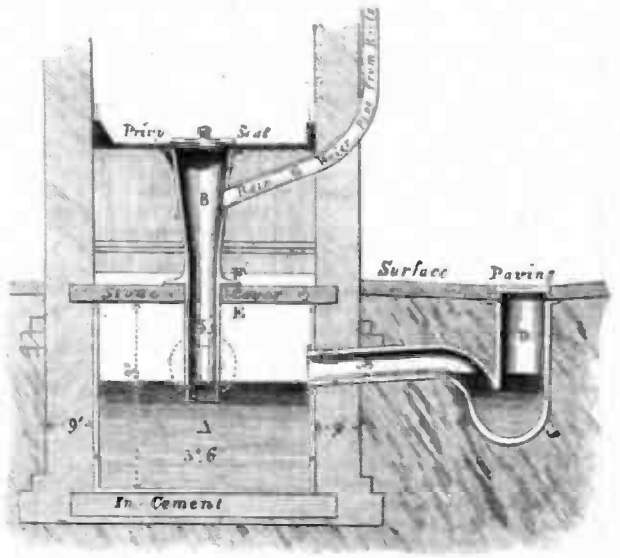

Fig. 7.

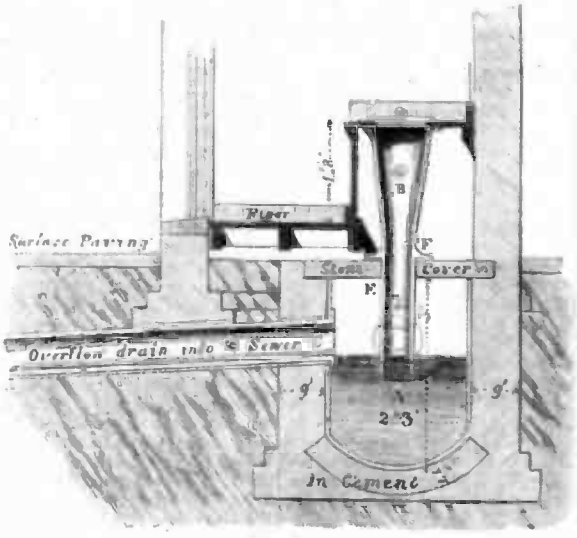

Fig. 8.

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